REMARKS

Claims 1 – 19 are pending in the present application. Claims 1 – 19 were rejected in the Office Action mailed on May 11, 2006. New claims 20 and 21 are added by the present amendment. Support for both new claims is found in the application as originally filed.

Claims 7 – 12 and 15 – 17 were rejected under 35 U.S.C. 112, second paragraph. Claims 9 – 12 have been amended so that they are now in proper Markush format. Claims 15 – 17 have been cancelled. Claims 7 – 8 have been amended to delete "(w/w)" and so that they end with a period. In view of the amendments, it is respectfully submitted that claims 7 – 12 are patentable under 35 U.S.C. 112, second paragraph.

Claims 1, 9 – 15 and 19 were rejected as anticipated under 35 U.S.C. 102(b) by U.S. Patent No. 5,001,210, issued to Coury. Claim 15 has been cancelled. Coury discloses a method of making a polyurethane via reacting a polyamine and cyclic carbonate and then reacting the urethane polyol with polyisocyanates. In all examples of Coury, there is a 1/1 stoichiometry between the urethane polyol and polyisocyanate. Further, all of the examples are thermoplastic. There is no disclosure in Coury of the use of urethane diols to make moisture curable reactive hot melt adhesives such as that of the present invention. Reactive hot melt adhesives are made from diisocyanates and diols with NCO/OH ratios greater than 1, and usually in the range of about 1.5-2/1. Reactive hot melt adhesives are typically applied at temperatures between 110 – 140C and, if the architecture of the adhesive backbone is incorrect, the materials become unstable and premature crosslinking results from heating. This result is caused by the formation of allophanate from the reaction between the terminal isocyanate groups and the in-chain urethane groups. The present invention is distinctly different than Coury in that it discloses the use of urethane in reactive hot melt adhesives that can be applied at low temperatures (in the range of about 90 – 110C) with good thermal stability and have high green strength that is similar to or greater than that of conventional reactive hot melt adhesives that must be applied at higher temperatures which are in the range of about 120-140C. As anticipation under 35 U.S.C. 102(b) requires identity of invention, in view of the differences between Coury and the present invention, it is respectfully submitted that claims 1, 9 – 14 and 19 are patentable under 35 U.S.C. 102(b) over Coury.

Claims 1 – 19 were rejected as unpatentable under 35 U.S.C. 103(a) over EP1378531, issued to Kesselmayer, in view of Coury. Claims 4 – 6 and 15 – 17 have been cancelled. The distinctions between Coury and the present invention set forth above are equally applicable to the present rejection. Kesselmayer discloses a moisture curable reactive hot melt polymer composition formed by admixing components comprising at least one polyol, at least one polyisocyanate and at least one acrylic polymer having tertiary alkyl amide functionality.

Urethane diols are not included in Kesselmayer's list of preferred ingredients, which includes polyether polyols, polyester polyols and fatty polyols. Further the acrylic polymer of Kesselmayer is specific to those having tertiary alkyl amide functionality which is different than the present invention. Consequently, one skilled in the art would be led away from the present invention and instead to a composition having an acrylic polymer with a specific functionality and no urethane. In view of this, it is respectfully submitted that claims 1 – 3, 7 – 14 and 18 -19 are patentable under 35 U.S.C. 103(a) over Kesselmayer in view of Coury.

Claims 1 – 8 and 13 – 19 were rejected as anticipated under 35 U.S.C. 102(b) by U.S. Patent Application Serial No. 2002/0164486, filed by Guse. Claims 4 – 6 and 15 – 17 have been cancelled. Guse discloses isocyanate-reactive polymers which are based on polyurethanes. There is no disclosure or teaching in Guse of how the polyurethane diols are made. It is well known in the art that the most common method of making polyurethane diols is to copolymerize a diol with a diisocyanate, where the diol is in excess. The resulting molecule will have one hydroxy group at each end, but at least some of the resulting chains will have at least three urethanes in their backbone. As these are polyurethane diols, they will be polymeric in nature and there will be a distribution of molecular weights. In contrast, the diols of the present invention are only produced from reactions between diamines and cyclic carbonates. The urethane diols of the present invention have two urethane groups per molecule resulting from a low molecular weight amine and a cyclic carbonate. All of the urethane diols exemplified in the present invention would have low molecular weights of less than 1000 g/mole. Accordingly, as anticipation requires identity of invention, in view of the differences between Guse and the present invention, it is respectfully submitted that claims 1 – 3, 7 – 8, 13 – 14 and 18 – 19 are patentable under 35 U.S.C. 102(b) over Guse.

Claims 1 – 19 were rejected as unpatentable under 35 U.S.C. 103(a) over Guse in view of Coury. Claims 4 – 6 and 15 – 17 have been cancelled. The distinctions between Guse and Coury and the present invention set forth above are equally applicable to the present rejection. Accordingly, it is respectfully submitted that claims 1 – 3, 7 – 14 and 18 – 19 are patentable under 35 U.S.C. 103(a) over Guse in view of Coury.

In view of the foregoing, it is respectfully submitted that the present application is in condition for allowance. If there are any issues that the Examiner wishes to discuss, he is invited to contact the undersigned attorney at the telephone number set forth below.

Respectfully submitted,

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